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Chapter 27
NEW REALITIES: OZONE AND THE WESTERN UNITED STATES

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Synopsis

§ 27.01 Introduction[*] [**]

It is not uncommon for the U.S. Environmental Protection Agency (EPA) to tighten its national ambient air quality standards (NAAQS) to

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[**]At the time of the writing of this chapter, the U.S. Environmental Protection Agency (EPA) had not issued its final rule setting the ozone national ambient air quality standards (NAAQS). EPA issued its final rule in October 2015, setting the primary standard at 0.070 parts per million. *See* NAAQS for Ozone, 80 Fed. Reg. 65,292 (Oct. 26, 2015) (to be codified at 40 C.F.R. pts. 50–53, 58).

address new understandings of the effects of air pollution on humans and the environment. But as EPA moves forward with a proposal to make the ozone NAAQS more stringent, the Agency is likely ushering in a new reality for the western United States: where EPA sets a standard for concentrations of ozone in the ambient air that may be unachievable regardless of the actions taken by state regulators and the reductions achieved by anthropogenic sources of emissions. The problem in the Intermountain West is that EPA is advancing a revised ozone NAAQS that appears to be at or below the background concentration that exists in much of the region; in large areas across the western United States, prevailing ozone concentrations are attributable to other mechanisms, namely, stratosphere-to-troposphere ozone intrusion, naturally occurring ozone from sources like wildfires, and international ozone transport into the Intermountain West from sources in Asia.[1]

None of these sources of ozone can be effectively controlled by the states that are required to attain the new standard. As a result, one of the central themes that EPA will be faced with—in both finalizing the rule and defending the judicial challenges that are almost certain to follow—is whether EPA can lawfully impose and defend a standard that is unattainable by the means available under the Clean Air Act (CAA).[2]

§ 27.02 Clean Air Act Background and the National Ambient Air Quality Standards (NAAQS)

[1] Clean Air Act §§ 108 and 109

The NAAQS are the core of the CAA, and establish minimum air quality standards that apply uniformly to the entire United States. Section 108(a) of the CAA[3] vests EPA with the authority to set NAAQS by listing pollutants that, in the judgment of the Administrator, "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare; . . . the presence of which . . . results from numerous or diverse mobile or stationary sources . . . ."[4] This language, along with the expansive definitions of "air pollutant" and "welfare" in section 302 of the CAA,[5] provide EPA with significant latitude to set NAAQS for various air

[1] Ozone is occasionally referred to as O_3.

[2] 42 U.S.C. §§ 7401–7671q.

[3] *Id.* § 7408(a).

[4] *Id.* § 7408(a)(1)(A)–(B).

[5] *Id.* § 7602.

pollutants.[6] The pollutants listed by EPA under this authority are called criteria pollutants.

Subsequent to listing a pollutant or class of pollutants, EPA must publish "air quality criteria" that identify the latest scientific knowledge on identifiable and anticipated health and welfare effects of the criteria pollutants.[7] Simultaneously with the issuance of air quality criteria, EPA is required to provide information "relating to the cost of installation and operation, energy requirements, emission reduction benefits, and environmental impact of the emission control technology" to the states and appropriate air pollution agencies.[8]

Upon setting air quality criteria, the Administrator must publish primary and secondary ambient air quality standards.[9] Primary ambient air quality standards must be set at a level adequate to protect public health, "allowing an adequate margin of safety."[10] The federal courts have interpreted the margin-of-safety requirement as addressing uncertainties associated with the scientific and technical information available at the time EPA sets the standard, therefore allowing EPA to "'err' on the side of overprotection by setting a fully adequate margin of safety."[11] But the bounds of the margin-of-safety-requirement are not limitless. As EPA itself recognizes in the new ozone NAAQS proposed in December 2014, "[t]he CAA does not require the Administrator to establish a primary NAAQS at a zero-risk level or at background concentrations, but rather at a level that reduces risk sufficiently so as to protect public health with an adequate margin of safety."[12]

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[6] *See id.* § 7602(g) (defining "air pollutant" to include "any . . . substance or matter which is emitted into or otherwise enters the ambient air," which includes air pollutant precursors); *id.* § 7602(h) (specifying that the term "welfare" "includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being").

[7] *Id.* § 7408(a)(2).

[8] *Id.* § 7408(b)(1).

[9] *Id.* § 7409(a).

[10] *Id.* § 7409(b)(1).

[11] Am. Petroleum Inst. v. Costle, 665 F.2d 1176, 1186 (D.C. Cir. 1981); *see also* Coal. of Battery Recyclers Ass'n v. EPA, 604 F.3d 613, 618 (D.C. Cir. 2010) (specifying that the "'NAAQS must protect not only average healthy individuals, but also sensitive citizens' such as children" (quoting Am. Lung Ass'n v. EPA, 134 F.3d 388, 389 (D.C. Cir. 1998) (internal quotation marks omitted))); Am. Farm Bureau Fed'n v. EPA, 559 F.3d 512, 533 (D.C. Cir. 2009) (holding that "the agency need not wait for conclusive findings before regulating a pollutant it reasonably believes may pose a significant risk to public health").

[12] NAAQS for Ozone, 79 Fed. Reg. 75,234, 75,238 (proposed Dec. 17, 2014) (to be codified at 40 C.F.R. pts. 50–53, 58) (Proposed Ozone NAAQS) (citations omitted).

Furthermore, the U.S. Supreme Court has specified that standard setting under section 109 requires "EPA to set air quality standards at the level that is 'requisite'—that is, not lower or higher than is necessary—to protect the public health with an adequate margin of safety . . . ."[13]

EPA must set secondary standards at the level that protects public welfare from "any known or anticipated adverse effects."[14] "Public welfare" is broadly defined under the CAA and includes impacts on soil, water, vegetation, wildlife, property damage, aesthetic concerns, and other non-health-related impacts.[15]

Presently, EPA has set NAAQS for six "criteria pollutants" under title I of the CAA.[16] Other pollutants, such as hazardous air pollutants (HAP), are not regulated using ambient air quality standards, and are instead regulated under source category-specific standards in section 112 of the CAA.[17] EPA last identified a new criteria pollutant in 1978, when it set the first ambient air quality standards for lead.[18]

After setting the NAAQS, EPA identifies areas of the United States that are meeting the standards and areas that are not. Pollution levels are measured in the ambient air by a network of monitoring stations maintained by EPA and the states. Data from monitoring stations are used by states and EPA to classify areas that meet the NAAQS for a given pollutant (known as attainment areas) and those that do not (known as nonattainment areas).[19]

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[13] Whitman v. Am. Trucking Ass'ns, 531 U.S. 457, 475–76 (2001).

[14] 42 U.S.C. § 7409(b)(2).

[15] *See id.* § 7602(h).

[16] *See* 40 C.F.R. pt. 50. Criteria pollutants include particulate matter (PM_{10} and $PM_{2.5}$); sulfur dioxide (SO_2); ozone (O_3); nitrogen dioxide (NO_2); carbon monoxide (CO); and lead (Pb).

[17] 42 U.S.C. § 7412. The term "source category" refers to the type of facility, e.g., a pulp and paper mill or a lead smelter.

[18] *See* National Primary and Secondary Ambient Air Quality Standards for Lead, 43 Fed. Reg. 46,246 (Oct. 5, 1978) (codified at 42 C.F.R. pt. 50). EPA also regulates source categories through its new source performance standards. 40 C.F.R. pt. 60.

[19] *See* 42 U.S.C. §§ 7410(a)(2)(B) (regarding ambient air quality monitoring), 7619 (same), 7407(d)(1)(A) (regarding attainment classification). With the recent revision to the NAAQS for SO_2, EPA began looking to air quality dispersion modeling as a tool (in addition to monitoring) to make, or assist the Agency as it makes, attainment designations. *See* Data Requirements Rule for the 1-Hour SO_2 Primary NAAQS, 79 Fed. Reg. 27,446, 27,446 (proposed May 13, 2014) (to be codified at 40 C.F.R. pt. 51) (proposing to use "monitoring and/or air quality modeling techniques" for designating areas as nonattainment).

In addition, areas that cannot be classified as attainment or nonattainment on the basis of available information are designated as unclassifiable.[20]

For some criteria pollutants, the CAA contains provisions that subcategorize nonattainment areas. For instance, ozone nonattainment areas may be classified as marginal, moderate, serious, severe, or extreme according to the degree to which an area is exceeding the NAAQS.[21] The nonattainment area classification dictates the attainment date assigned to a given ozone nonattainment area, varying from 3 to 20 years after initial nonattainment classification.[22] These area designations and classifications are critically important for states implementing the CAA because they impact the timing, stringency, and costs of a state's implementation planning.

While EPA sets the NAAQS under sections 108 and 109 of the CAA, the CAA places the obligation on the states to achieve and maintain the NAAQS through state implementation plans (SIP).[23] The CAA requires states to prepare, adopt, and submit a SIP when the NAAQS are revised.[24] For nonattainment areas, implementation of the NAAQS is significant, because states are required to impose costly emission reductions for existing sources and may need to cap emissions within an airshed, making it difficult, if not impossible, to site new or expand existing stationary sources.[25]

Each state is required to adopt a SIP containing various control measures and strategies for achieving and maintaining the NAAQS.[26] Once the SIP is adopted by a state after public notice and comment, the state then submits the SIP to EPA for approval. Upon EPA approval, the SIP is federally enforceable.[27] This means that noncompliance can be enforced by the state under state law and the federal government and private citizens under federal law. If a state fails to submit a required SIP element, or EPA

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[20] 42 U.S.C. § 7407(d)(1)(A)(iii).

[21] *Id.* § 7511(a)(1).

[22] *Id.* § 7511(a)(1) tbl.1.

[23] *Id.* § 7410.

[24] *Id.* § 7410(a)(1).

[25] *See id.* § 7503(a)(1)(A) (requiring emissions offsets from major existing sources in nonattainment areas before construction of a new major source or major modification is allowed).

[26] *See id.* § 7410(a)(2).

[27] 40 C.F.R. § 52.23.

disapproves a SIP submission and the state does not correct any deficiencies, EPA must impose a federal implementation plan for the area.[28]

Section 109(d) of the CAA directs EPA to "complete a thorough review" of the existing NAAQS every five years.[29] Upon review of the NAAQS, EPA must "promulgate such new standards as may be appropriate."[30] The Administrator has the option to promulgate new standards earlier or more frequently than required under section 109(d).[31] The periodic review of the NAAQS is important because, while EPA rarely identifies new criteria pollutants, the standards for the existing NAAQS are under routine scrutiny and have been made more stringent over time.

[2] Role of the Clean Air Scientific Advisory Committee

EPA does not act alone in the NAAQS review and revision process. The Clean Air Scientific Advisory Committee (CASAC) advises EPA as the Agency considers the NAAQS.[32] CASAC is a seven-member committee, composed of "at least one member of the National Academy of Sciences, one physician, and one person representing State air pollution control agencies."[33] CASAC's specific role is to independently review air quality criteria and the NAAQS, and to recommend to EPA "any new [NAAQS] and revisions of existing criteria and standards as may be appropriate" under the CAA.[34] CASAC is also directed to

> (i) advise the Administrator of areas in which additional knowledge is required to appraise the adequacy and basis of existing, new, or revised [NAAQS], (ii) describe the research efforts necessary to provide the required information, (iii) advise the Administrator on the relative contribution to air pollution concentrations of natural as well as anthropogenic activity, and (iv) advise the Administrator of any adverse public health, welfare, social, economic, or energy effects which may result from various strategies for attainment and maintenance of such [NAAQS].[35]

Even though EPA is ultimately responsible for establishing and revising the NAAQS, the Agency is required to explain the reasons for its actions

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[28] 42 U.S.C. § 7410(c)(1).

[29] *Id.* § 7409(d)(1).

[30] *Id.*

[31] *Id.*

[32] *Id.* § 7409(d)(2)(A).

[33] *Id.*

[34] *Id.* § 7409(d)(2)(B).

[35] *Id.* § 7409(d)(2)(C).

during the rulemaking process. The CAA specifically requires EPA to reference "any pertinent findings, recommendations, and comments" made by CASAC.[36] Further, if EPA's proposal differs from CASAC's recommendations, the Agency is required to explain the reasons for such departures.[37]

[3] Legal Precedent Governing EPA's Consideration of the NAAQS

[a] Role of Costs Associated with Attaining the NAAQS

Since Congress adopted the modern incarnation of the CAA in 1970, EPA has consistently interpreted section 109 to preclude consideration of cost or technical feasibility when setting, revising, and implementing the NAAQS.[38] To date, federal courts, including the U.S. Supreme Court, have supported this interpretation. For example, in *Lead Industries Ass'n v. EPA*,[39] the petitioners argued that EPA abused its discretion under the CAA when it failed to consider "the economic impact of the proposed [lead] standard on industry and the technological feasibility of compliance by emission sources in determining the appropriate allowance for a margin of safety."[40] In response, the U.S. Court of Appeals for the D.C. Circuit held that petitioners' argument was "totally without merit," and that "[n]othing in [section 109] . . . suggests that the Administrator is to consider economic or technological feasibility in setting ambient air quality standards."[41] More recently, the U.S. Supreme Court held similarly in *Whitman v. American Trucking Ass'ns*,[42] a case involving challenges to revised NAAQS for ozone and particulate matter (PM). Writing for the majority, Justice Scalia authoritatively held: "The text of § 109(b), interpreted in its statutory and historical context and with appreciation for its importance to the CAA as a whole, unambiguously bars cost considerations from the NAAQS-setting process, and thus ends the matter for us as well as the EPA."[43] Here, the

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[36] *Id.* § 7607(d)(3).

[37] *Id.*

[38] Proposed Ozone NAAQS, 79 Fed. Reg. at 75,238 (stating that EPA may not consider costs of implementation when setting the NAAQS (citing Whitman v. Am. Trucking Ass'ns, 531 U.S. 457, 465–72, 475–76 (2001))).

[39] 647 F.2d 1130 (D.C. Cir. 1980).

[40] *Id.* at 1148.

[41] *Id.* at 1148–49.

[42] 531 U.S. 457 (2001).

[43] *Id.* at 471.

court's language is significant; EPA, according to Justice Scalia, is barred from considering costs as it sets the NAAQS.

Notwithstanding this seemingly conclusive statement from one of the Court's most conservative Justices, the factual circumstances in *Whitman* arguably limit the holding. While the petitioners in *Whitman* were concerned with the costs of achieving the revised NAAQS, *Whitman* was postured in the context of a NAAQS that could presumably be achieved at *some* cost, even if an extraordinarily high cost. In contrast, in vast areas of the western United States, depending on where EPA sets the revised ozone NAAQS, attainment may not be achieved no matter the cost.

[b] Focus of the NAAQS on Health and Sensitive Subpopulations

Section 109(b) of the CAA directs EPA to set and revise the NAAQS at levels requisite to protect public health, allowing an adequate margin of safety. EPA has interpreted the "margin of safety" requirement to allow for the consideration of multiple health-related factors, including "the nature and severity of the health effects, the size of sensitive population(s) at risk, and the kind and degree of the uncertainties that must be addressed."[44] Courts have afforded EPA considerable discretion in determining the margin of safety factors to apply when setting or revising the NAAQS.[45]

One critical factor that EPA has long applied to the required "margin of safety" analysis is the protection of sensitive subpopulations, such as people with asthma, children, and the elderly.[46] The basis for this level of protection is rooted in the legislative history of the CAA. In a Senate Report accompanying the Clean Air Amendments of 1970,[47] the Senate Committee on Public Works stated that "included among those persons whose health should be protected by the ambient standard are particularly sensitive citizens such as bronchial asthmatics and emphysematics."[48] The D.C. Circuit has upheld EPA's interpretation that the "margin of safety" requirement allows the Agency to consider sensitive subpopulations when

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[44] Proposed Ozone NAAQS, 79 Fed. Reg. at 75,238.

[45] *See, e.g.*, Mississippi v. EPA, 744 F.3d 1334, 1353 (D.C. Cir. 2013) (stating that "[o]ur case law has left EPA with a wide berth when it comes to deciding how best to account for an adequate margin of safety"); Lead Indus. Ass'n v. EPA, 647 F.2d 1130, 1162 (D.C. Cir. 1980) (stating that the choice between possible margin of safety approaches "is a policy choice of the type that Congress specifically left to the Administrator's judgment").

[46] Proposed Ozone NAAQS, 79 Fed. Reg. at 75,244 n.15.

[47] Pub. L. No. 91-604, 84 Stat. 1676.

[48] S. Rep. No. 91-1196, at 10 (1970).

setting and revising the NAAQS.[49] For example, in *American Lung Ass'n v. EPA*,[50] the court stated that the "NAAQS must protect not only average healthy individuals, but also 'sensitive citizens'—children, for example, or people with asthma, emphysema, or other conditions rendering them particularly vulnerable to air pollution."[51] Therefore, although EPA has a "wide berth" when determining how and when to apply the margin of safety requirement, the Agency must analyze and discuss sensitive subpopulations when setting or revising the NAAQS.[52]

[c] Contextual Considerations

Unsurprisingly, Justice Scalia's majority opinion in *Whitman* is firmly grounded in a narrow textualist reading of the CAA, specifically sections 108 and 109. In his concurrence to the *Whitman* opinion, Justice Breyer offers a perhaps more pragmatic view of the CAA, analyzing it in the context of modern society. Although Breyer agrees that the CAA does not allow EPA to consider pure economic costs associated with setting or revising the NAAQS, he argues that the plain language of sections 108 and 109 must be read in context.[53] For Justice Breyer, when read in the context of modern society, section 109's directive to set NAAQS "'requisite to protect the public health' with 'an adequate margin of safety'" does not require EPA to eliminate every health risk.[54] Breyer explains his argument with an analogy, stating that "[w]e consider football equipment 'safe' even if its use entails a level of risk that would make drinking water 'unsafe' for consumption."[55] Justice Breyer's point is simple: the statutory directives of the CAA should be read in context, rather than in a vacuum.

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[49] *See, e.g.*, Coal. of Battery Recyclers Ass'n v. EPA, 604 F.3d 613, 617–18 (D.C. Cir. 2010) (specifying that the "NAAQS must protect not only average healthy individuals, but also 'sensitive citizens' such as children . . ." (quoting Am. Lung Ass'n v. EPA, 134 F.3d 388, 389 (D.C. Cir. 1998) (internal quotation marks omitted)); Am. Farm Bureau Fed'n v. EPA, 559 F.3d 512, 524 (D.C. Cir. 2009) (finding EPA acted arbitrarily and capriciously because it failed to adequately explain why the revised NAAQS for particulate matter was sufficient to protect public health while providing an adequate margin of safety for vulnerable subpopulations).

[50] 134 F.3d 388 (D.C. Cir. 1998).

[51] *Id.* at 389 (citing S. Rep. No. 91-1196, at 10 (1970)).

[52] Mississippi v. EPA, 744 F.3d 1334, 1353 (D.C. Cir. 2013).

[53] Whitman v. Am. Trucking Ass'ns, 531 U.S. 457, 490–95 (2001) (Breyer, J., concurring in part and concurring in the judgment).

[54] *Id.* at 494; *see also* Indus. Union Dep't, AFL-CIO v. Am. Petroleum Inst., 448 U.S. 607, 642 (1980) ("'safe' is not the equivalent of 'risk-free'").

[55] *Whitman*, 531 U.S. at 494 (Breyer, J., concurring in part and concurring in the judgment).

Justice Breyer also argued that EPA should consider background circumstances, like the public's tolerance of particular health risks, "when 'decid[ing] what risks are acceptable in the world in which we live.' "[56] To this end, Justice Breyer notes that the CAA permits EPA to consider "comparative health risks. That is to say, [the Administrator] may consider whether a proposed rule promotes safety overall."[57] Arguably, Justice Breyer opens the door to an argument that EPA can consider the negative impacts that might correspond to setting the NAAQS at a level that harms the economy.[58] Justice Breyer found that section 109 affords the Administrator "considerable discretion" to analyze comparative health consequences and the acceptability of small risks to health when setting or revising the NAAQS.[59] Justice Breyer concludes that such "discretion would seem sufficient to avoid the extreme results that some of the industry parties fear."[60]

[4] Evolution of the NAAQS

Since EPA first established the NAAQS in the 1970s, the NAAQS have followed a trend of increasing stringency. Indeed, with the CAA's mandate for periodic review of the NAAQS coupled with advances in science allowing for the statistical detection of cause and effect at lower and lower concentrations, the progression towards more stringent NAAQS appears inevitable—especially where EPA is barred from considering costs.

An example of this downward trend is illustrated by the particulate matter (PM) NAAQS. As displayed in Table 1 below, there has been a persistent downward trend in the allowable concentrations for PM over time. The NAAQS for PM went from being based on total suspended particles (TSP) in 1971 to a daily standard for fine particulate (i.e., $PM_{2.5}$), that represents just 13% of the fraction originally set as the NAAQS.[61]

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[56] *Id.* at 495 (alteration in original) (quoting Nat. Res. Def. Council, Inc. v. EPA, 824 F.2d 1146, 1165 (D.C. Cir. 1987)).

[57] *Id.*; *see also id.* ("A rule likely to cause more harm to health than it prevents is not a rule that is 'requisite to protect the public health.' ").

[58] *But see id.* at 490 ("legislative history, along with the statute's structure, indicates that § 109's language reflects a congressional decision not to delegate to the agency the legal authority to consider economic costs of compliance").

[59] *Id.* at 495.

[60] *Id.*

[61] The table shows different indicators of PM (TSP, PM_{10}, and $PM_{2.5}$) and two different averaging periods (daily, or 24-hour, and annual). While it is technically necessary to compare values for a single indicator across a given averaging period in order to precisely assess changes in standards, the downward numerical trend across the PM indicators shows a clear increase in stringency for PM.

There has been a corresponding downward trend in the actual ambient concentrations of PM.[62] Although this is undoubtedly a good thing for all who breathe ambient air, it also means that future reductions become increasingly more difficult and costly to achieve. While it is a tired cliché in the regulatory field, the principle of "low hanging fruit" is illustrative: in an efficient economy, the most feasible controls with the lowest cost are implemented first. Accordingly, as the NAAQS are continually ratcheted down, it becomes increasingly costly for states to rid their airsheds of additional units of pollution.

Table 1: NAAQS for Particulate Matter Over Time

Year	Indicator	Daily Standard	Annual Standard
1971	TSP	260 μg/m³	75 μg/m³
1987	PM_{10}	150 μg/m³	60 μg/m³
1997	$PM_{2.5}$	64 μg/m³	15 μg/m³
	PM_{10}		50 μg/m³
2006	$PM_{2.5}$	35 μg/m³	
2012	$PM_{2.5}$		12 μg/m³

§ 27.03 Historical Regulation of Ozone

Ground level ozone is formed when nitrogen oxides (NO_X) and volatile organic compounds (VOC) react with one another in the presence of sunlight and elevated temperatures.[63] According to EPA, "[b]reathing ozone can trigger a variety of health problems, particularly for children, the elderly, and people of all ages who have lung diseases such as asthma. Ground level ozone can also have harmful effects on sensitive vegetation and ecosystems."[64] Although chemically identical, ground level ozone should not be confused with stratospheric ozone, which shields the Earth from harmful ultraviolet radiation.

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[62] EPA, "Particulate Matter," http://www.epa.gov/airtrends/pm.html.

[63] EPA, "Ground Level Ozone" (Mar. 25, 2015), http://www3.epa.gov/ozonepollution/. This is, of course, a somewhat simplistic articulation of how ozone is formed. *See* EPA, "Integrated Science Assessment for Ozone and Related Photochemical Oxidants," § 3.2 (Feb. 2013) (EPA ISA). Additionally, more recently, high concentrations of ozone have also been associated with wintertime events in eastern Utah's Uintah Basin and Wyoming's Upper Green River Basin. The reflectivity of the sun off of snow-covered ground along with other area-specific circumstances is the subject of an ongoing study by the Utah Division of Air Quality (UDAQ). UDAQ, "Final Report: 2014 Uinta Basin Winter Ozone Study" (Feb. 2015). Likewise, the Wyoming Department of Environmental Quality (WDEQ) is also continuing to study wintertime ozone formation in the Upper Green River Basin. *See* WDEQ, "Winter Ozone Study," http://deq.wyoming.ogv/aqd/winter-ozone/.

[64] EPA, "Ground Level Ozone," http://www3.epa.gov/ozonepollution/.

To date, EPA has promulgated three different ozone standards, identified in Table 2 below. EPA initially regulated ozone as part of a category of pollutants known as photochemical oxides. The NAAQS for photochemical oxides were promulgated by EPA in 1971.[65] In 1979, the NAAQS for photochemical oxides were superseded by an ozone-specific standard set at 0.12 parts per million (ppm) with a 1-hour averaging period.[66] Over 14 years later, EPA reviewed the 0.12 ppm 1-hour standard, and concluded that revisions to the standard were not appropriate.[67] After initiating another review of the 1979 air quality criteria and standards for ozone, EPA revised the standards in 1997 by lowering the primary and secondary standards to 0.08 ppm "based on the 3-year average of the annual fourth-highest daily maximum 8-hour average O_3 concentrations measured at each monitor within an area."[68]

To address continued nonattainment of the ozone NAAQS in certain areas of the country, Congress established different categories for ozone nonattainment in the CAA Amendments of 1990.[69] These categories include: marginal, moderate, serious, severe, and extreme.[70] Each category corresponds to an ozone "design value," or ambient concentration level, as well as an attainment date—anywhere from three to 20 years after the date of enactment, depending on the severity of nonattainment.[71] Although areas classified as "extreme" are afforded more time to achieve attainment, they are also required to enact more stringent control measures.[72]

EPA has identified several control measures that states can implement in their SIPs to meet the NAAQS for ground level ozone.[73] Which measures are required varies based on nonattainment classification, but they generally include submission of an ozone emissions inventory, implementation of reasonably available control technology (RACT) at existing sources, emissions offsets for sources permitted under the new source review (NSR) program, lowering the emission thresholds for triggering major

[65] 36 Fed. Reg. 8186 (Apr. 30, 1971) (to be codified at 42 C.F.R. pt. 410).

[66] 44 Fed. Reg. 8202 (Feb. 8, 1979) (to be codified at 40 C.F.R. pt. 50). The proposed standard is also identified in terms of parts per billion (ppb).

[67] 58 Fed. Reg. 13,008 (Mar. 9, 1993) (notice of final decision).

[68] 62 Fed. Reg. 38,856, 38,856 (July 18, 1997) (to be codified at 40 C.F.R. pt. 50).

[69] Pub. L. No. 101-549, 104 Stat. 2399.

[70] 42 U.S.C. § 7511(a)(1).

[71] *Id.*

[72] *Id.* § 7511a.

[73] *Id.*

NSR, gasoline vapor recovery, and enhanced vehicle inspection and maintenance, among others.[74]

Furthermore, although EPA revoked the 1-hour ozone NAAQS in 2004, following the effective date of the 8-hour standard, the CAA's anti-backsliding provisions require states to nonetheless comply with SIP requirements associated with the old standard.[75] Thus, states are required to comply with nonattainment contingency plans associated with both the old 1-hour standard and the revised 8-hour standard.

Table 2: Evolution of Ozone Standards

Year	Indicator	Averaging Time	Standard
1971	Photochemical Oxidants	1-hour	0.08 ppm
1979	O_3	1-hour	0.12 ppm
1997	O_3	8-hour	0.08 ppm
2008	O_3	8-hour	0.075 ppm

[1] 2008 Revised Standard and *Mississippi v. EPA*

EPA revised the ozone NAAQS in 2008 from 0.08 ppm to 0.075 ppm and retained the 8-hour averaging period.[76] Leading up to this revision, EPA solicited comment on alternate levels between 0.060 and 0.080 ppm.[77] CASAC recommended the standard be set at a level between 0.060 and 0.070 ppm.[78] Although EPA acknowledged that the 0.075 ppm standard in the final rule was "above the range recommended by the CASAC," the Agency grounded its departure on "a mixture of scientific and policy considerations."[79] Ultimately, EPA concluded that an ozone NAAQS set at 0.075 ppm was necessary because "the likelihood of obtaining benefits

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[74] *Id.*

[75] *See* Final Rule to Implement the 8-Hour Ozone NAAQS—Phase 1, 69 Fed. Reg. 23,951, 23,954 (Apr. 30, 2004) (to be codified at 40 C.F.R. pts. 50, 51, 81) (specifying that EPA "will revoke the 1-hour standard in full"); 42 U.S.C. § 7502(e); S. Coast Air Quality Mgmt. Dist. v. EPA, 472 F.3d 882, 904 (D.C. Cir. 2006) (holding that the CAA's anti-backsliding provisions require that contingency plans incorporated in a SIP for the 1-hour ozone standard remain in place even after revocation in favor of an 8-hour ozone standard).

[76] NAAQS for Ozone, 73 Fed. Reg. 16,436 (Mar. 27, 2008) (to be codified at 40 C.F.R. pts. 50, 58).

[77] *Id.* at 16,439.

[78] *See id.* at 16,482; *see also* Letter from Dr. Rogene Henderson, Chair, CASAC, to Stephen L. Johnson, Administrator, EPA, "Clean Air Scientific Advisory Committee's (CASAC) Peer Review of the Agency's 2nd Draft Ozone Staff Paper" (Oct. 24, 2006) (recommending a revised primary ozone NAAQS between 0.060 and 0.070 ppm).

[79] 73 Fed. Reg. at 16,482.

to public health with a standard set below 0.075 ppm O_3 decreases, while the likelihood of requiring reductions in ambient concentrations that go beyond those that are needed to protect public health increases."[80]

In *Mississippi v. EPA*,[81] the State of Mississippi and multiple industrial entities challenged the revised standard, arguing it was too stringent, while other states—including New York and California—and environmental groups argued the revised standard was not strict enough. Following a lengthy stay of the case while the Obama Administration considered further revising the ozone NAAQS, the D.C. Circuit heard oral arguments on the 0.075 ppm revised standards.[82] The D.C. Circuit ultimately denied the petition for review of the 2008 revised primary ozone standards, holding that EPA's interpretation of the science in determining the primary ground level ozone standard was reasonable and not arbitrary and capricious.[83] The court did, however, remand the secondary NAAQS for reconsideration by the Agency because EPA failed to determine the level of protection "requisite to protect the public welfare."[84] But the court decided not to vacate the rule, leaving the standard in place during EPA's interim review because, first, the Agency's failure to adequately explain itself was a curable defect, and second, vacating a standard because it may not be protective enough sacrifices its current level of protection.[85]

§ 27.04 EPA's Proposed Revisions to the Ozone NAAQS

In September 2008, just six months after it promulgated the final rule establishing the 0.075 ppm standards challenged in *Mississippi*, EPA announced that it would re-review the ozone NAAQS.

[1] Proposed Primary Standard

In its proposed rule to revise the ozone NAAQS,[86] EPA sought comments on a downward revision of the ozone NAAQS within a range of 0.065 ppm

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[80] *Id.* at 16,483.

[81] 744 F.3d 1334 (D.C. Cir. 2013).

[82] Lawrence Hurley & Gabriel Nelson, "Lawyers Plot Next Steps in Legal Battle Over Ozone Rule," *Greenwire* (Sept. 7, 2011) (specifying that the Administration had considered a revised standard between 0.060 and 0.070 ppm, but ultimately abandoned the rulemaking effort); Jeremy P. Jacobs, "Court Backs EPA Ozone Limit but Orders Review of Public Welfare Standard," *Greenwire* (July 23, 2013).

[83] *Mississippi*, 744 F.3d at 1345.

[84] *Id.* at 1361 (quoting 42 U.S.C. § 7409(b)(2)).

[85] *Id.* at 1362.

[86] Proposed Ozone NAAQS, 79 Fed. Reg. 75,234.

and 0.070 ppm, on an 8-hour averaging period.[87] In addition, the Agency also sought comments on retaining the current primary standard of 0.075 ppm, established in 2008, as well as on setting the standard as low as 0.060 ppm.[88] In setting the range of the proposed revision to the primary ozone NAAQS, EPA relied on the general approach used in its 2008 review of the NAAQS in combination with updated scientific evidence, exposure/risk information, and advances in ozone air quality modeling.[89]

After consideration of the available scientific evidence, exposure/risk information, and the comments and advice of CASAC, EPA proposed that "the current primary O_3 standard is not adequate to protect public health, and that it should be revised to provide increased public health protection."[90] The Agency's determination was based on evidence including controlled human exposure studies, which indicate adverse respiratory effects can occur following exposure to ozone concentrations below the current standard (as low as 0.072 ppm), and single-city epidemiological studies, which provide support for the occurrence of adverse respiratory effects under air quality conditions that likely meet the current primary ozone standard.[91] However, EPA also recognized that "some have expressed alternative approaches to viewing the evidence and information, including alternative approaches to viewing, evaluating, and weighing important uncertainties."[92]

[2] Proposed Secondary Standard

In *Mississippi*, the D.C. Circuit remanded the secondary ozone NAAQS promulgated by EPA in 2008, holding that the Agency "failed to determine what level of protection was 'requisite to protect the public welfare,'" as required under section 109 of the CAA.[93] In the proposed rule, EPA reviewed the broader body of scientific evidence, updated exposure/risk information, advances in ozone air quality modeling, and air monitoring information.[94] In light of the D.C. Circuit's remand of the secondary standard, the Agency incorporated its response to the remand in the proposed

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[87] *Id.* at 75,234.

[88] *Id.* at 75,236.

[89] *Id.* at 75,243.

[90] *Id.* at 75,291.

[91] *Id.*

[92] *Id.*

[93] *Mississippi*, 744 F.3d at 1361–62.

[94] Proposed Ozone NAAQS, 79 Fed. Reg. at 75,312.

rule.[95] EPA considered altering the form of the secondary standard from its current form, which is the same as the primary standard (the annual fourth-highest daily maximum 8-hour concentration), in favor of a cumulative seasonal standard, expressed in terms of the "W126 exposure index," or "W126 index."[96] The W126 index "is a seasonal aggregate of weighted hourly O_3 values observed between 8 a.m. and 8 p.m."[97] EPA proposed "to conclude that ambient O_3 concentrations in terms of a W126 index value, averaged across three consecutive years, within the range from 13 ppm-hrs to 17 ppm-hrs would provide the requisite protection against known or anticipated adverse effects to the public welfare."[98] According to the proposed rule, this level of protection could be achieved by setting the secondary standard within the range of 0.065 to 0.070 ppm—the same range and form as the proposed primary standard.[99]

Unlike the 2008 secondary standard, the current proposed secondary standard appears to be consistent with the D.C. Circuit's decision in *Mississippi* because EPA has explained why the proposed standard is requisite to protect public welfare.[100] Therefore, it is unlikely that a challenge to the proposed secondary ozone standard using the argument that prevailed in *Mississippi* against the 2008 secondary standard would succeed.

§ 27.05 Proposed Ozone NAAQS and What They Mean for the Intermountain West

Like any more stringent standard, the proposed ozone NAAQS would push certain areas that are attaining the current standard into nonattainment status. Indeed, EPA estimated that 358 counties would violate a standard set at 70 ppb and 558 counties would violate a standard set at 65 ppb.[101] But what makes the proposed ozone standard so significant for the Intermountain West is the fact that EPA's proposed levels were coming in at, or near, what many believe are background levels of ozone concentrations, meaning that eventual attainment may be impossible to reach.

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[95] *Id.*

[96] *Id.* at 75,349–51.

[97] *Id.* at 75,242.

[98] *Id.* at 75,312.

[99] *Id.*

[100] *See id.* at 75,346–51 (summarizing the Administrator's proposed conclusions regarding the public welfare protectiveness of the current proposed secondary standard); *see also Mississippi*, 744 F.3d at 1361–62.

[101] EPA, "Ozone Maps," http://www.epa.gov/groundlevelozone/maps.html.

[1] Sources of Background Ozone in the Intermountain West

Given the techniques that the CAA uses to regulate the ambient air, the term background concentration used in this chapter means ozone and ozone precursors that are either produced outside of the United States or are the product of non-anthropogenic sources within the United States. This is the same definition that EPA used in the proposed rule to define background ozone.[102] As defined, this represents emissions or concentrations that are effectively beyond the reach of the CAA and the states' control.

Non-domestic and non-anthropogenic sources of ozone and ozone precursors are a significant source of the concentrations of ozone in the Intermountain West, a fact EPA acknowledges in its proposed rule.

> Another challenging aspect of the O_3 issue is the involvement of sources of O_3 and O_3 precursors beyond those from domestic, anthropogenic sources. Modeling analyses have suggested that nationally the majority of O_3 exceedances are predominantly caused by anthropogenic emissions from within the U.S. However, observational and modeling analyses have concluded that O_3 concentrations in some locations in the U.S. can be substantially influenced by sources that may not be suited to domestic control measures. *In particular, certain high-elevation sites in the western U.S are impacted by a combination of non-local sources like international transport, stratospheric O_3, and O_3 originating from wildfire emissions.* . . . The analyses suggest that, at these locations, there can be episodic events with substantial background contributions where O_3 concentrations approach or exceed the level of the current NAAQS (i.e., 75 ppb).[103]

The Western States Air Resources Council (WESTAR) agrees with EPA's assessment.

> If EPA adopts a standard in the proposed range of 65 to 70 parts per billion, it is inevitable that new non-attainment areas will be designated in the west. Some of these areas will also inevitably be designated predominantly as a result of ozone transported from outside the non-attainment area boundaries. In a recent assessment of ozone monitoring data, it was estimated that background ozone concentrations - non-anthropogenic background and transported

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[102] *See* Proposed Ozone NAAQS, 79 Fed. Reg. at 75,242. In preparing the proposed rule, EPA considered three categories of background. First, EPA considered defining background as limited to "natural background," which included ozone concentrations generated from natural sources around the globe but excludes all anthropogenic emissions. EPA ISA, *supra* note 63, at 3-31. EPA's second category was designated "North American background," which included natural background from around the globe plus anthropogenic pollutants created from countries outside of North America). *Id.* EPA identified a final category of background, "U.S. background," which included all globally occurring natural background and all anthropogenic pollutants from countries outside of the United States. *Id.* In defining background, EPA has used the term "policy relevant background" (PRB), and in past reviews, PRB has effectively been North American background. *Id.* at 3-30.

[103] Proposed Ozone NAAQS, 79 Fed. Reg. at 75,242 (emphasis added).

anthropogenic ozone combined - ranged from 47 ppb to 68 ppb at six western cities during ozone episodes.[104]

There are three primary sources of background ozone in the Intermountain West: stratospheric intrusion; wildfires and other natural sources of ozone precursors; and international transport of ozone.

[a] Stratospheric Intrusion

Stratospheric intrusion of ozone occurs when ozone-rich air from the stratosphere is transported into the troposphere.[105] This is caused by a process known as tropopause folding, a phenomenon that occurs behind most cold fronts, which bring stratospheric air with them, resulting in mixing of tropospheric and stratospheric air.[106] "This imported stratospheric air contributes to the natural background of O_3 in the troposphere, especially . . . during winter and spring."[107]

In addition to tropopause folding, scientists have also identified deep convection events as capable of penetrating the troposphere, increasing the overall downward flux of ozone by approximately 20%.[108] According to EPA's 2013 integrated science assessment (ISA) for ozone, unlike folding, this mechanism operates primarily during the summer months, when anthropogenic ozone concentrations are typically at their highest.[109]

[b] Ozone Created by Wildfires

Along with stratospheric ozone, another major contributor to background ozone levels identified by EPA in the proposed rule is wildfire.[110] According to the ISA, "[c]ontributions to NO_X, CO, and VOCs from wildfires and prescribed fires are considered as precursors to background O_3 formation in this assessment."[111] However, the ISA also notes that "[e]stimating contributions from wildfires is subject to considerable uncertainty."[112] The ISA references a 2008 study, which estimated that burning one million acres

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[104] WESTAR Comments on the Proposed Revision to the NAAQS for Ozone at 4, Docket No. EPA-HQ-OAR-2008-0699-1990 (Mar. 16, 2015) (WESTAR Comments) (footnote omitted). WESTAR is an association of air quality regulators in 15 western states. *Id.* at 1.

[105] EPA ISA, *supra* note 63, at 3-32.

[106] *Id.* at 3-32 to -33.

[107] *Id.* at 3-33.

[108] *Id.*

[109] *Id.* at 3-33 to -34.

[110] Proposed Ozone NAAQS, 79 Fed. Reg. at 75,383.

[111] EPA ISA, *supra* note 63, at 3-33 to -34.

[112] *Id.* at 3-34.

in the western United States during summer results in a corresponding increase in ozone levels of two ppb across the region.[113] On average, this would result in an average increase in ozone between 3.5 and 8.8 ppb across the entire western United States during the fire season.[114]

[c] International Transport of Ozone

According to the ISA, concentrations of ozone in the United States are also influenced by ozone transported from North America (i.e., Mexico and Canada) and from Eurasia.[115] Indeed, the ISA found that "[b]ecause the mean tropospheric lifetime of O_3 is on the order of a few weeks, O_3 can be transported from continent to continent and around the globe in the Northern Hemisphere."[116] Importantly, high elevations, like the Intermountain West "are most susceptible to the intercontinental transport of pollution especially during spring."[117]

[2] Background Concentrations of Ozone in the Intermountain West

Many of the comments on the proposed standard addressed the issue of background concentrations by pointing to modeling studies and monitoring data documenting air quality data in rural areas of the western United States.

For instance, the National Mining Association (NMA) pointed to three modeling studies as showing the background problem that exists in the Intermountain West.[118] Indeed, the NMA found that one of the studies modeled ozone concentrations in Yellowstone National Park as exceeding 0.090 ppm and that background ozone accounted for 90% of those concentrations.[119]

As to monitored evidence, many comments pointed to studies conducted in Utah and Nevada. For instance, the Utility Air Regulatory Group (UARG) identified a recent study of background ozone in Clark County,

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[113] *Id.*

[114] *Id.* EPA also acknowledges that other natural sources of ozone and ozone precursors exist, such as biogenic emissions and lightning. *Id.* at 3-32.

[115] *Id.* at 3-36.

[116] *Id.* (citation omitted). Interestingly, the ISA found that transport was so efficient that emissions from the United States could be "recirculated around northern mid-latitudes back to the United States." *Id.*

[117] *Id.*

[118] NMA Comments on the Proposed Revision to the NAAQS for Ozone at 6–7, Docket No. EPA-HQ-OAR-2008-0699-2928 (Mar. 17, 2015) (NMA Comments).

[119] *Id.* at 7.

Nevada as particularly illustrative of the problem facing the Intermountain West under a more stringent standard.[120] Specifically, a 43-day study of ozone in the county shows that certain areas would exceed a 0.065 ppm standard on 60% of the days studied.[121] A study by the Utah Department of Environmental Quality also played heavily in some comments.[122] The study found that rural regions of the state—regions where there are few sources of ozone precursors—were above the standard proposed by EPA.[123] The study also opined that the correlated concentrations at the network of monitors, some of which were separated by 250 miles, showed that regional transport was likely influencing ozone concentrations.[124]

[3] EPA's Proposed Mechanism for Addressing Background Concentrations

In its proposed rule, EPA acknowledged that it has discretion to consider background concentrations as it sets the NAAQS: "The EPA *may* consider proximity to background levels as a factor in the decision whether and how to revise the NAAQS when considering levels within the range of reasonable values supported by the air quality criteria and judgments of the Administrator."[125] EPA went on to state that "[i]t is in the implementation process that states and the EPA can address how to develop effective public policy in locations in which background sources contribute substantially to high O_3."[126] Consequently, EPA effectively proposed to shift the issue of how background concentrations must be accounted for in the NAAQS to the states' implementation of the NAAQS after EPA has set the level. This back-end approach has significant limitations in its ability to ameliorate against an otherwise unattainable standard.

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[120] UARG Comments on the Proposed Revision to the NAAQS for Ozone at 15, Docket No. EPA-HQ-OAR-2008-0699-3440 (Mar. 17, 2015).

[121] *Id.*

[122] NMA Comments, *supra* note 118, at 7–8; *see* Seth Arens & Kiera Harper, Utah Dep't of Envtl. Quality, "2012 Utah Ozone Study" (Jan. 2013) (Utah Ozone Study) (available as an attachment to the NMA Comments).

[123] *See* Utah Ozone Study, *supra* note 122, at 36 (the study identified the fourth-highest 8-hour concentrations as Antelope Island (79 ppb); Badger Springs (76 ppb); Spanish Fork (76 ppb); Great Basin National Park (76 ppb); Zion National Park (76 ppb); Nephi (72 ppb); Desert Range (72 ppb); and Delta (71 ppb)).

[124] *Id.* at 46.

[125] Proposed Ozone NAAQS, 79 Fed. Reg. at 75,242–43 (emphasis added). *But see id.* at 75,242 ("the CAA requires the EPA to set the NAAQS at levels requisite to protect public health and welfare without regard to the source of the pollutant" (citing Am. Petroleum Inst. v. Costle, 665 F.2d 1176, 1185–86 (D.C. Cir. 1981))).

[126] *Id.* at 75,243.

In the proposed rule, EPA identified three potential legal mechanisms that states could use to mitigate the adverse effect of high background ozone concentrations. First, EPA identified the potential relief afforded by the Agency's exceptional events rule, which can be used to exclude days from attainment consideration when ozone concentrations are caused by uncontrollable events.[127] Second, EPA identified the CAA's rural transport provision, which allows qualifying areas to meet the NAAQS requirements through more basic "marginal" nonattainment area air quality planning.[128] Finally, EPA identified the CAA's provision addressing international transport of emissions, which still requires areas influenced by international emissions to prepare SIPs and impose emission reductions but allows EPA to waive sanctions for failure to attain the NAAQS during a specific time frame.[129] Some states have expressed concern that, while the mechanisms identified by EPA are technically available, they are extremely burdensome, expensive, and resource intensive and largely ineffective in practice.[130]

The exceptional events rule may be the most important of these mechanisms, at least in theory, because if used, the rule could allow states to keep areas with high concentrations of background ozone from being classified as nonattainment areas. However, commenters complained that EPA's current version of the exceptional events rule will not provide any realistic relief. For instance, WESTAR commented that EPA's exceptional events rule, as it is currently embodied, would not provide relief because the current rule is so onerous that it wastes public resources and because EPA

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[127] *Id.* at 75,383–84 (citing 40 C.F.R. § 50.14).

[128] *Id.* at 75,384 (citing 42 U.S.C. § 7511a(h)).

[129] *Id.* at 75,384–85 (citing 42 U.S.C. § 7509a).

[130] *E.g.*, Testimony Before the House Sub-Committee on Environment of the Committee on Science, Space and Technology at 2, Amanda Smith, Exec. Dir., Utah Dep't of Envtl. Quality (June 12, 2013) ("[T]he exceptional events policy has proven to be an impossibly high hurdle to meet and one that eats literally thousands of hours of critical staff time to develop each submission. Since 2008 Utah has submitted 12 exceptional event demonstrations for particulate matter, requiring about 4,000 hours of technical work, that have not been approved by Region 8. There were many other events, including ozone levels affected by western wildfires that we did not even attempt to demonstrate as exceptional events because the technical criteria were too difficult to meet. . . . If EPA moves forward with a more stringent standard without workable measures to address background ozone, it will guarantee failure for Utah, leading to severe consequences for the state."); WESTAR Comments, *supra* note 104, at 13–19 (arguing that the rural transport rule provides no realistic regulatory relief and that the international transport rule leaves regulators with significant burdens to implement the NAAQS).

would be giving states just three or four months to complete some of these demonstrations.[131]

This is one area that sources should pay close attention to in the coming years. In the proposed rule, EPA stated that it "intends to develop guidance to address the Exceptional Events Rule criteria for wildfires that could affect ambient O_3 concentrations."[132] Given the likely importance of the rule to the revised ozone standards, sources will want to comment on any potential guidance and work with their respective local air regulators to recommend a broad review of how the rule actually works in practice and methods of making each demonstration less onerous on the states.

Commenters also challenged EPA's reliance on the rural and international provisions as providing relief for areas with high concentrations of background ozone. For instance, the American Petroleum Institute (API) argued that the rural transport rule does not provide any real-world relief because, even if the concentrations in the ambient air are attributed to background, the areas are still designated nonattainment, subjecting sources within such areas to the CAA's permitting program and offset requirements.[133] Furthermore, the rural transport rule is rarely used, and EPA has indicated that it intends to continue to limit that rule's scope.[134] Finally, a demonstration under the rural transport rule requires modeling and analysis that would place a significant burden on an agency's finances and resources.[135] As to the international transport rule, API argued that this rule also provides no real relief because, like the rural transport rule, the area is still designated as a nonattainment area, meaning the state must still develop a SIP and impose reasonably available control measures (RACM) that require sources to cut emissions.[136] The only relief that the rule provides is that states will not face sanctions for failing to bring the area into attainment by the attainment date; the state, however, will still be

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[131] WESTAR Comments, *supra* note 104, at 10–12; *see also* Comments by the Nev. Div. of Envtl. Prot. on the Proposed Revision to the NAAQS for Ozone at 9, Docket No. EPA-HQ-OAR-2008-0699-1741 (Mar. 12, 2015) (NDEP Comments) (commenting on the extraordinary burden of the exceptional events rule).

[132] Proposed Ozone NAAQS, 79 Fed. Reg. at 75,383.

[133] API Comments on the Proposed Revision to the NAAQS for Ozone at 158, Docket No. EPA-HQ-OAR-2008-0699-2465 (Mar. 17, 2015).

[134] *Id.*

[135] *Id.*

[136] *Id.*

required to impose conditions that require local sources to cut emissions under the international transport rule.[137]

[4] Practical Impact of the Revised NAAQS on Operations in the Intermountain West

EPA's final action on the revised ozone NAAQS as proposed will initiate a process that identifies the areas that are not attaining the NAAQS and place the respective state regulators on a timeline for implementing the revised NAAQS and bringing all areas into attainment.[138] The process has definite impacts on existing and potential facilities in these nonattainment areas.

For instance, one of the fundamental analyses underlying each SIP is an evaluation and implementation of all RACM, which includes "reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of [RACT] . . . ."[139] RACT is important to owners and operators of existing sources because the state is required to review the operations at existing facilities to determine if there are controls available that will allow the facility to cut its emissions.[140] In other words, the SIP development process authorizes state regulators to force existing facilities to install new controls and meet new, more-stringent emission limitations by application of RACT.[141] But the RACT requirement is limited to major

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[137] *Id.*

[138] EPA is required to identify and designate all nonattainment areas within two years after taking final action on the revised standard. EPA's designation process is done with input by the states and typically requires the states to submit information regarding the designation of areas within one year of EPA's promulgation of the revised NAAQS. *See* Proposed Ozone NAAQS, 79 Fed. Reg. at 79,372–73.

[139] 42 U.S.C. § 7502(c)(1). While the following paragraphs focus on the impacts of RACT, it should be acknowledged that RACM is considered to be broader and covers "other measures" that may be imposed including

> emission limitations, and such other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emission rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to provide for attainment of such standard in such area by the applicable attainment date . . . .

Id. § 7502(c)(6).

[140] Proposed Ozone NAAQS, 79 Fed. Reg. at 75,374.

[141] EPA has previously established presumptive RACT for VOC sources in the Agency's Control Techniques Guidelines documents. *See* EPA, "SIP Planning Information Toolkit: Control Techniques Guidelines and Alternative Control Techniques Documents," http://www.epa.gov/groundlevelozone/SIPToolkit/ctgs.html.

sources of emissions.[142] Additionally, the RACT analysis will involve an examination of whether controls are economically feasible to install at a particular facility.[143]

Additionally, the CAA's offset provisions are likely to be critical to new facilities and to owners and operators of existing facilities that want to expand current operations. An offset is an emission reduction created when an existing facility reduces its emissions and is used to offset an increase in emissions from new sources or modified sources.[144] Under the CAA, states are required to impose an offset requirement for all new and modified major sources located in nonattainment areas.[145]

The practical effect of the offset requirement is that the SIP places a cap on emissions in the nonattainment areas. By doing so, the state effectively prohibits increases in emissions of ozone precursors from new major sources or modifications to existing major sources until offsets become available. As a consequence, owners and operators have two options if they want to site a new facility or expand an existing one: (1) the project must remain under the applicable major source threshold; or (2) the project proponent must obtain offsets from reductions at other sources.

The impact that the new NAAQS has on facilities is not limited to nonattainment areas either. For instance, the Utah Division of Air Quality (UDAQ) has issued a permitting guidance that requires all new sources and modifications to existing sources to demonstrate that their emission increases in the Uintah Basin will not contribute to a violation of

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[142] Generally under the CAA and EPA's regulations, a major source is defined as a facility that emits 100 tons annually of a regulated air pollutant. 42 U.S.C. § 7602(j); 40 C.F.R. § 52.21(b)(1). But under the CAA's ozone provisions, the definition of a major source varies depending on the nonattainment classification. For instance, a major source in a serious ozone nonattainment area is a source with emissions of more than 50 tons per year of VOC, while a facility in a severe ozone nonattainment area is a major source if it emits 25 tons per year of VOC. 42 U.S.C. § 7511a(c), (d).

[143] EPA, "NOx RACT Summary," http://www.epa.gov/region1/airquality/noxract.html (citing 57 Fed. Reg. 55,620 (Nov. 25, 1992)).

[144] EPA, "Nonattainment NSR Basic Information," http://www2.epa.gov/nsr/nonattainment-nsr-basic-information.

[145] 42 U.S.C. 7503(a)(1)(A). The sliding definition of what constitutes a major source based on the nonattainment classification, see *supra* note 142, under the ozone nonattainment provisions of the CAA also affects whether sources will be required to obtain offsets. Additionally, the offset ratio differs in accordance with the area classification. For instance, new and modified sources in marginal areas are required to offset increases in VOC emissions at a ratio of 1.1 to 1, while the same sources located in extreme areas may be required to offset emissions at a rate as high as 1.5 to 1. *Id.* § 7511a(a)(4), (e)(1).

the existing ozone NAAQS.[146] Under the policy, UDAQ identified three options for making the necessary demonstration: (1) the source may conduct photochemical ozone modeling that shows the increase in emissions will not cause a violation of the ozone NAAQS; (2) the source may obtain VOC offsets at a ratio of 1.1 to 1; and (3) the source may propose an alternative demonstration. Importantly, however, UDAQ did not limit this policy to major sources, meaning that, as a practical matter, minor sources and minor modifications to existing sources are currently required to obtain offsets.

As states attempt to avoid nonattainment designation—as UDAQ is arguably trying to do with its permitting policy for the Uintah Basin—policies similar to that adopted by UDAQ may become the norm in attainment areas, making new projects and modifications to existing facilities more difficult to permit (and more expensive to permit where offsets are required).

§ 27.06 Bases for Challenging a Standard At or Below Background Concentrations

Whatever level EPA elects to set the revised ozone NAAQS, the Agency will almost certainly see a judicial challenge from states, industry, and environmental groups arguing that the standards are too stringent or too lenient.[147] While it is impossible to predict what such a challenge will look like, given the comments lodged in this rulemaking, it is safe to anticipate that Justice Breyer's concurrence in *Whitman* will be at the heart of some of those challenges. Specifically, Justice Breyer espoused a legal argument that context matters when administrative agencies promulgate regulations, and when EPA is setting a NAAQS under CAA §§ 108 and 109 in particular. In construing the CAA's directive to the Administrator to "set standards that are 'requisite to protect the public health' with 'an adequate margin of safety,' "[148] Breyer explained that these words cannot be

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[146] *See* Guideline, UDAQ, "Uintah Basin Permitting Guidance" (Jan. 16, 2013). In recent years, UDAQ has observed high wintertime ozone concentrations in the basin. *Id.*; *see also* UDAQ, *supra* note 63.

[147] In the proposed rule, EPA left itself a great deal of flexibility in setting the final primary standard. Specifically, in addition to identifying a specific range for the standard (e.g., 0.065 to 0.070 ppm), EPA also requested comments supporting a decision to leave the standard at the current 0.075 ppm or to move the standard as far down as 0.060 ppm. Proposed Ozone NAAQS, 79 Fed. Reg. at 75,236. By doing so, EPA has arguably provided reasonable notice—the hallmark of procedural due process for proposed rules—to the public that the final standard could be set anywhere between 0.060 ppm and 0.075 ppm.

[148] Whitman v. Am. Trucking Ass'ns, 531 U.S. 457, 494 (2001) (Breyer, J., concurring in part and concurring in the judgment) (quoting 42 U.S.C. § 7409(b)(1)).

"understood independent of context."[149] Breyer further stated that "what counts as 'requisite' to protecting the public health will similarly vary with background circumstances, such as the public's ordinary tolerance of the particular health risk in the particular context at issue."[150]

While Justice Breyer generally cloaks this contextual argument in discretionary terms, there is some indication that in the right circumstances—circumstances arguably present in the instant rulemaking—EPA *must* account for the context in setting the NAAQS.[151]

> In order better to achieve regulatory goals—for example, to allocate resources so that they save more lives or produce a cleaner environment—regulators must often take account of all of a proposed regulation's adverse effects, at least where those adverse effects clearly threaten serious and disproportionate public harm. Hence, I believe that, other things being equal, we should read silences or ambiguities in the language of regulatory statutes as permitting, not forbidding, this type of rational regulation.[152]

Justice Breyer's choice of words is intriguing; he writes that "regulators must often" account for the adverse effects of their regulatory decision for a regulatory program to be rational in some circumstances, suggesting a mandatory obligation to do so in the right contextual circumstance.[153]

EPA, however, has taken the position—at least regarding the impact that background concentrations of ozone will have on the attainment of a new standard—that its consideration of the context created by a new, more-stringent ozone standard is discretionary.[154] Moreover, in this instance, EPA stated that it will not consider the context (i.e., background levels) as the Agency sets a new standard for ozone but will wait to deal with implications of background concentrations during the implementation of

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[149] *Id.*

[150] *Id.*

[151] *See, e.g., id.* at 495 ("The statute's words, then, authorize the Administrator to consider the severity of a pollutant's potential adverse health effects, the number of those likely to be affected, the distribution of the adverse effects, and the uncertainties surrounding each estimate. *They permit the Administrator* to take account of comparative health consequences. *They allow her* to take account of context when determining the acceptability of small risks to health. And they give her considerable discretion when she does so." (emphasis added) (citation omitted)).

[152] *Id.* at 490. This stands in contrast to Justice Scalia's interpretation of legislative silence as precluding the administrative consideration of factors not expressly enumerated. *Id.* at 471; *see supra* § 27.02[3][a].

[153] Justice Breyer does not explain what specific scenarios would require EPA to account for the adverse effects of a revised NAAQS.

[154] Proposed Ozone NAAQS, 79 Fed. Reg. at 75,242–43.

the new NAAQS.[155] A case can be made that context does, in fact, matter in revising the ozone NAAQS, and matters to such a degree that EPA must—as opposed to may—consider the adverse effects of a new, more stringent ozone standard.

[1] Health Effects and Cost of Attainment

At first blush, the Supreme Court's interpretation of the impact that costs may play in setting a NAAQS appears clear: "The text of § 109(b), interpreted in its statutory and historical context and with appreciation for its importance to the CAA as a whole, *unambiguously bars cost considerations from the NAAQS-setting process* . . . ."[156] Most of the Court's focus on costs, however, centers on the cost of implementing the NAAQS, that is, the direct cost of implementation (e.g., purchasing, installing, and operating control measures necessary to achieve the standard).[157] And, in that vein, the whole of the opinion would appear to leave little, if any, room for arguing that EPA must account for the costs of implementation when setting a NAAQS—at least implementation costs that fall short of being ruinous to American industry.

There are very real, quantifiable negative health impacts associated with a standard set so low that it creates adverse socioeconomic impacts (i.e., lost jobs, lost health benefits, and poor nutrition). This chapter will refer to such socioeconomic impacts as implementation-related health costs. While considering direct costs as a NAAQS-setting criterion might be foreclosed by *Whitman*, consideration of implementation-related health costs at the NAAQS-setting stage might not be foreclosed and may perhaps even be required where a compelling record is made to support such impacts.

To be sure, such an argument is not unassailable and may have to rely on extending the logic of Breyer's contextual argument to pull it across the finish line. The contrary argument to that outlined in the preceding paragraphs starts with CAA §§ 108 and 109. Section 109(b)(1) instructs EPA to set the primary NAAQS "based on such criteria and allowing an adequate margin of safety, requisite to protect the public health."[158] The reference to

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[155] *See id.*; *see also id.* at 75,238 ("The CAA does not require the Administrator to establish a primary NAAQS at a zero-risk level or at background concentrations, but rather at a level that reduces risk sufficiently so as to protect public health with an adequate margin of safety." (citations omitted)).

[156] *Whitman*, 531 U.S. at 471 (emphasis added).

[157] *See, e.g., id.* at 465 ("Nowhere are the costs of achieving such a standard made part of that initial calculation."); *id.* at 468 ("we find it implausible that Congress would give to the EPA through these modest words the power to determine whether implementation costs should moderate national air quality standards").

[158] 42 U.S.C. § 7409(b)(1).

"such criteria" is to the "air quality criteria," in section 108(a)(1), not some other criteria such as cost. Section 108, in turn, provides that the criteria "shall accurately reflect the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected *from the presence of such pollutant in the ambient air, in varying quantities*."[159] Standing alone, this language could be read as addressing only the health (and welfare) effects associated with direct exposure to the pollutant and not implementation-related health effects.

Scalia's majority opinion comes close to articulating such a position, but does not quite get all the way there. While Scalia found that even if the Court conceded the existence of health effects beyond those associated with the presence of the pollutants in the ambient air, it would still not conclude that the *cost of implementation* should be considered in developing and applying the criteria.[160] The *Whitman* court, however, was not presented with a well-sourced and documented assessment of the negative health impacts associated with implementation.

For example, the challengers in *Whitman* offered little more than sweeping conclusions about "closing down whole industries and thereby impoverishing the workers and consumers dependent upon those industries."[161] Consequently, the Court was confronted by neither a standard that is impossible to attain nor a well-documented record that directly associates and quantifies negative health impacts associated with achieving a standard based on "the presence of such pollutant in the ambient air, in varying quantities."[162] In the absence of such robust data, Justice Scalia's decision is understandably faithful to a strict interpretation of the CAA, which "unambiguously bars cost considerations from the NAAQS-setting

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[159] *Id.* § 7408(a)(2) (emphasis added).

[160] *Whitman*, 531 U.S. at 465–67 (finding that Congress anticipated that the NAAQS could injure public health but still excluded EPA from considering costs when enacting the NAAQS).

[161] *Id.* at 466. The brief of cross-petitioners American Trucking Ass'ns et al. went the furthest in attempting to present data demonstrating that EPA's standard would result in a net negative outcome. *See* Brief for Cross-Petitioners, *Whitman*, 531 U.S. 457 (Nos. 99-1257, 99-1426), 2000 WL 1014021. The argument was limited to a single paragraph that identified a range of compliance costs—estimated between $1.1 to $8.1 billion annually—drawn for EPA's regulatory impact analysis and compared the cost to the benefits EPA estimated would result from the new standard. *Id.* at 43; *see also* Brief of Ohio, Michigan & West Virginia in Support of Cross-Petitioners, *Whitman*, 531 U.S. 457 (Nos. 99-1257, 99-1426), 2000 WL 1014290 (arguing EPA should be allowed to consider cost and other non-health factors but identifying no specific data supporting a finding that consideration of such information would have led to a different result).

[162] 42 U.S.C. § 7408(a)(2).

process";[163] it does not, however, expressly address a more direct accounting of those costs when accounting for the net health effects associated with a NAAQS.

In contrast, Justice Breyer's concurring opinion arguably appears to embrace the concept. Justice Breyer suggests that pushing industry toward ruin could lead to comparative health consequences that necessarily impact how EPA sets the NAAQS.[164]

> [The] interpretation of § 109 does not require the EPA to eliminate every health risk, however slight, at any economic cost, however great, to the point of "hurtling" industry over "the brink of ruin," or even forcing "deindustrialization." The statute, by its express terms, does not compel the elimination of *all* risk; and it grants the Administrator sufficient flexibility to avoid setting ambient air quality standards ruinous to industry.
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> The statute also permits the Administrator to take account of comparative health risks. That is to say, she may consider whether a proposed rule promotes safety overall. A rule likely to cause more harm to health than it prevents is not a rule that is "requisite to protect the public health." For example, as the Court of Appeals held and the parties do not contest, the Administrator has the authority to determine to what extent possible health risks stemming from reductions in tropospheric ozone (which, it is claimed, helps prevent cataracts and skin cancer) should be taken to account in setting the ambient air quality standard for ozone.[165]

By concluding that "[a] rule likely to cause more harm to health than it prevents is not a rule that is 'requisite to protect the public health,'" Justice Breyer suggests he could require EPA to account for implementation-related costs in determining the health effects of a NAAQS.[166] In any case, implementation-related health impacts would appear to be an appropriate contextual consideration for EPA in setting the NAAQS.

[a] National Mining Association's Case for Comparative Health Risks

In light of the Court's opening in *Whitman* with respect to EPA's consideration of implementation-related health costs in setting the NAAQS, the NMA provided documented authority of the economic consequences of implementation should EPA establish an ozone NAAQS at several of the

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[163] *Whitman*, 531 U.S. at 471.

[164] *See id.* at 494–95 (Breyer, J., concurring in part and concurring in the judgment).

[165] *Id.* (citations omitted).

[166] Of course, one can readily imagine all kinds of factual disputes over the data and analyses that would be related to an assessment of implementation-related cost impacts. But that is an issue apart from the pure legal question of whether such costs are relevant or necessary to the NAAQS-setting process.

levels that it has proposed.[167] Moreover, the NMA also attempted to document a link between the economic consequences and the corresponding negative health impacts.[168]

Specifically, the NMA argued that EPA's proposed standard was invalid because "EPA has wholly failed to account for an entire component of negative public health implications associated with lowering the ozone NAAQS; that is, the socioeconomic disruption that will occur and the attendant adverse health impacts."[169] In particular, the NMA cited to numerous studies that tie poor physical health—including mortality, myocardial infarction, stroke, depression, anxiety, health care visits, prescription medication usage, and childhood health—to unemployment and poverty.[170] The NMA argued that the standard, if adopted by EPA as proposed, would have tremendous impact on the economy. For instance, NMA argued that a standard set at 0.065 ppm would reduce the country's gross domestic product (GDP) by $140 billion annually and eliminate 1.4 million job equivalents annually.[171]

The NMA also projected that a standard set at the 0.065-ppm level would increase residential energy prices by 1.7%.[172] The proposed standard would likely cause the mining industry to constrict through reductions in workforces, mine closures, and decisions either to not expand existing mines or to refrain from opening new mines—all results carrying adverse public health impacts.[173] Moreover, the NMA also asserted that the impacts on the mining industry would likely have greater effects on local economies

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[167] *See* NMA Comments, *supra* note 118, at 21–25 & attachment T (citing NERA Economic Consulting (NERA), "Assessing Economic Impacts of a Stricter National Ambient Air Quality Standard for Ozone" (July 2014) (NERA Analysis)). The NERA Analysis is a study commissioned by the National Association of Manufacturers.

[168] *Id.*

[169] *Id.* at 21. To be clear, EPA's regulatory impact analysis prepared in conjunction with the Agency's consideration of a new ozone standard contains an analysis of costs that EPA estimates will result from a more stringent ozone standard. EPA, "Regulatory Impact Analysis of the Proposed Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone" (Nov. 2014). However, EPA specifically disclaims that this analysis plays any role in its standard-setting process. *Id.* at 1-3 ("This RIA is intended to inform the public about the potential costs and benefits that may result when new standards are implemented, but it is not relevant to establishing the standards themselves.").

[170] NMA Comments, *supra* note 118, at 21–22.

[171] *Id.* at 22–23 (citing NERA, "Economic Impacts of a 65 ppb National Ambient Air Quality Standard for Ozone," at 11–12 (Feb. 2015)). The reduction in GDP nearly doubles to $270 billion annually if EPA were to adopt a 0.060 ppm standard. *Id.* at 22.

[172] *Id.* at 23.

[173] *Id.*

because mines are often located in rural communities that have less diverse economies.[174]

[2] Attainability and Background Concentrations

Various organizations have also argued that EPA cannot adopt a standard that is at or below background ozone levels because, under the CAA, the Agency cannot adopt a standard that is not attainable by local and state air regulators.[175] This argument builds upon the data reviewed in § 27.05[2], above, that shows EPA has proposed a standard that is below the background levels of the Intermountain West.

[a] Can EPA Set a NAAQS That Is Not Attainable Through the Control of Domestic Sources?

In its proposed rule, EPA anticipated an argument that it cannot establish the NAAQS at a level that is beyond the ability of local regulators to attain. Specifically, EPA cited to the D.C. Circuit's decision in *American Petroleum Institute v. Costle*[176] as holding that "[a]ttainability and technological feasibility are not relevant considerations in the promulgation of [NAAQS]."[177]

The D.C. Circuit's analysis in *Costle* relies on prior judicial holdings focused on the concept that the CAA was designed to be technology forcing.[178] A closer reading of this and other related case law shows that, in fact, the D.C. Circuit did not engage in a careful analysis of the relevance of attainability in the NAAQS-setting process. Specifically, the court stated that "the 'technology-forcing' requirements of the Act were expressly designed to force regulated sources to develop pollution control devices that might at the time appear to be economically or technologically infeasible."[179] Rather than providing an extensive analysis of the issue in *Costle*, the D.C. Circuit fell back on its prior decision in *Lead Industries Ass'n v. EPA*,[180] a case that focused exclusively on technological feasibility, as opposed to attainability. Ultimately, the court interpreted its prior decision in *Lead Industries* as

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[174] *Id.*

[175] WESTAR Comments, *supra* note 104, at 4–8 (arguing that background ozone is not well understood); NMA Comments, *supra* note 118, at 4–12; NDEP Comments, *supra* note 131, at 8–14.

[176] 665 F.2d 1176 (D.C. Cir. 1981).

[177] Proposed Ozone NAAQS, 79 Fed. Reg. at 75,238 (alteration in original) (quoting *Costle*, 665 F.2d at 1185).

[178] *See Costle*, 665 F.2d at 1185 (citing Lead Indus. Ass'n v. EPA, 647 F.2d 1130, 1149–50 (D.C. Cir. 1980)).

[179] *Id.*

[180] 647 F.2d 1130 (D.C. Cir. 1980).

holding that "[*a*]*ttainability* and technological feasibility are not relevant considerations in the promulgation of [NAAQS]."[181]

But a finding that the CAA does not necessitate an analysis of whether current technologies are available to enable sources to reduce their emissions to the degree necessary for an area to attain the NAAQS is not the same as asking whether EPA is setting the NAAQS at a level that, no matter what happens to domestic emissions, areas cannot attain the NAAQS.

[b] Why These Ozone Standards May Be Different

While the *Costle* and *Lead Industries* cases apparently present some strong language diminishing consideration of the feasibility of attaining the NAAQS, the cases do not appear to be so focused on the attainability issue as to exclude the argument from being re-litigated following EPA's final adoption of a new, more stringent ozone standard. This is particularly true in the context of a NAAQS that is demonstrably not attainable; as noted in § 27.05[1], above, the range of standards that EPA has proposed could arguably create nonattainment areas for which there is no possibility of attainment through control of anthropogenic emissions in the United States.

Moreover, there is a textual argument that the CAA requires EPA to set a standard that is capable of being attained by means available under the Act. For instance, section 107(a) places the burden on the states to prepare a SIP that "specif[ies] the manner in which the national primary and secondary ambient air quality standards *will be achieved and maintained* . . . ."[182] The provisions of the CAA governing nonattainment areas also indicate the same. For example, EPA is required to set a date "*by which attainment can be achieved* as expeditiously as practicable, but no later than 5 years from the date such area was designated nonattainment under section 7407(d) . . . ."[183] These statutory directives become illusory if there are no control measures or strategies available that can lead to attainment. Consequently, under this analysis, if EPA were to enact a NAAQS that is not achievable, it could be argued that the Agency would promulgate a standard that is arbitrary and capricious or beyond the Agency's statutory authority.

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[181] *Costle*, 665 F.2d at 1185 (emphasis added). The petitioners in *American Petroleum* did, in fact, attempt to present an argument focused exclusively on the premise that the NAAQS must be set at a level that is attainable. *See id.* (identifying an argument that EPA set the NAAQS at a level impossible for the Houston area to attain due to "natural factors"). The D.C. Circuit, however, addressed in a matter of sentences by referring back to its analysis that relied on *Lead Industries*. *Id.*

[182] 42 U.S.C. § 7407(a) (emphasis added).

[183] *Id.* § 7502(a)(2)(A) (emphasis added).

Indeed, *Whitman* reaffirms this statutory requirement. Both Justice Scalia and Justice Breyer discussed implementation of the NAAQS in terms of the states deciding how to achieve attainment. For instance, in his majority opinion Justice Scalia stated,

> It is to the States that the CAA assigns initial and primary responsibility for deciding what emissions reductions will be required from which sources. It would be impossible to perform that task intelligently without considering which abatement technologies are most efficient, and most economically feasible—which is why we have said that "the most important forum for consideration of claims of economic and technological infeasibility is before the state agency formulating the implementation plan."[184]

For his part, Justice Breyer stated,

> Technology-forcing hopes can prove realistic. Those persons, for example, who opposed the 1970 Act's insistence on a 90% reduction in auto emission pollutants, on the ground of excessive cost, saw the development of catalytic converter technology that helped achieve substantial reductions without the economic catastrophe that some had feared.
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> . . . .
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> Moreover, the Act does not, on this reading, wholly ignore cost and feasibility. As the majority points out, the Act allows regulators to take those concerns into account when they determine how to implement ambient air quality standards. Thus, States may consider economic costs when they select the particular control devices used to meet the standards, and industries experiencing difficulty in reducing their emissions can seek an exemption or variance from the [SIP].[185]

Underlying these statements is an assumption that attainment is achievable through a certain amount of emission reductions that state regulators can impose. These opinions speak to the idea that the CAA will spur on the development of controls and state regulators can make reasoned choices about which controls are necessary and feasible to attain the NAAQS. In this respect, a standard that may never be achieved fundamentally undercuts the very heart of the CAA's NAAQS concept.

[3] Ozone Standards in Context; When "May" Becomes "Must"

As previously discussed, Justice Breyer's analysis in *Whitman* suggests that administrative agencies "must often take account of all of a proposed regulation's adverse effects . . . ."[186] Justice Breyer, however, does not define what circumstances dictate when such an analysis becomes mandatory.

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[184] *Whitman*, 531 U.S. at 470 (citation omitted) (quoting Union Elec. Co. v. EPA, 427 U.S. 246, 266 (1976)).

[185] *Id.* at 492–93 (Breyer, J., concurring in part and concurring in the judgment) (citations omitted).

[186] *Id.* at 490.

For its part, EPA took the position in the proposed rule that background concentrations of ozone is not one of those circumstances that must be evaluated as part of the NAAQS-setting process.[187]

There is, however, a compelling case to be made that the proposed revised ozone NAAQS presents a scenario where EPA "must"—as opposed to "may"—consider the complete context of its decision to make the ozone NAAQS more stringent. That context appears to be informed by the comparative health impacts that the NMA identified in their comments on the proposed rule as well as the documented background concentrations of ozone that impact the ability of the states in the Intermountain West to ever attain a more stringent standard.

§ 27.07 Conclusion

The new reality for the Intermountain West as EPA moves toward a more-stringent ozone NAAQS is that EPA appears to be imposing a standard that may draw wide swaths of the western United States into nonattainment status by virtue of concentrations of ozone that are beyond the control of the CAA and the states. Unfortunately for owners and operators of existing sources—as well as those anticipating siting new operations in the region—their current operations will be examined closely to determine if there are controls that can be applied that will help the region cut emissions as the state reaches for an arguably unattainable standard. Moreover, the new reality is that obtaining a permit for an expansion of an existing operation or a new facility will be increasingly difficult under a more-stringent NAAQS. Given that reality, it is arguably irrational for EPA to ignore both the impact that background ozone has on the feasibility of attainment of the revised NAAQS and the implementation-related costs of the same as the Agency evaluates the proposed standard.

[187] *See supra* note 125.